



Australian Bureau of Statistics

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Summary

About this Release

Suppose a time series of quarterly seasonally adjusted estimates is desired from a quarterly original time series that is the temporal aggregate of a monthly original time series. These estimates can be obtained via two approaches. Either by (1) seasonally adjusting the quarterly original time series directly, or by (2) seasonally adjusting the monthly original time series and then temporally aggregating to the quarterly frequency. For the Census X11 method, the literature suggests that seasonal adjustment first and temporal aggregation second is the more efficient approach.

Monthly original time series contain richer information for non-regular calendar related effects and outliers than their quarterly temporal aggregates. To abstract from this we have considered the impact of temporal aggregation on regular seasonal calendar-related effects only. We then determine whether there are any disadvantages to applying approach (2) to produce seasonally adjusted estimates.

Quarterly seasonally adjusted estimates for the two approaches were produced with both the ABS X11 concurrent method and the ABS X11 with ARIMA forecasting extension method. It was found that for these ABS X11 methods, approach (2) is as efficient as approach (1), results in no worsening of current end revisions and improves consistency. On balance, considering all quality dimensions, the temporally derived approach appears the superior seasonal adjustment method for equivalent monthly and quarterly time series pairs.